



CIHR IRSC

Canadian Institutes of Health Research / Instituts de la recherche en santé Canada

Winter 2009

Your Health Research Dollars at Work

An Update from the Canadian Institutes of Health Research

New Strategy to Produce Better Research for Better Patient Care



Canada produces excellent health research. But it faces major challenges when it comes to channelling the results of research for the purpose of improving the health of Canadians and strengthening the health system.

The Canadian Institutes of Health Research (CIHR) is moving forward with a new national strategy on patient-oriented research.

We use the term "patient-oriented" to remind ourselves that we are working to help patients – real people who are looking to our health system for the best possible care or treatment. Our goal is simple: to support research that will improve patient care while reducing health-care costs.

This strategy will foster a culture of inquiry at all levels of the health system by supporting people, infrastructure and programs dedicated to leading-edge research and evidence-based care. By linking health research to health care, we will ensure that future research directions, practices and training are guided by clinical observations and clinical results.

In the process, we will build new partnerships with health charities, provincial and territorial governments, physicians and other health professionals, health industries, and many others. These relationships will enable us to identify research priorities and move research discoveries from the lab bench to the hospital bedside, the doctor's office and the marketplace.

By working together, we will do better research and a better job of turning research into improved patient care and a stronger, more efficient health system.

Alain Beaudet, MD, PhD
President

Canadian Institutes of Health Research

Minister Aglukkaq Encourages Northern Students to Study Science

The Canadian government and CIHR want to make it easier for students to choose health research as a career. Speaking to students in Iqaluit on February 6, Health Minister Leona Aglukkaq praised the success of CIHR's Synapse mentorship program, which has connected nearly 5,000 scientists with 55,000 students.

"We're very proud to have programs such as Synapse to help kids connect to their future and to give them the chance to use their gifts – especially the precious gift of youthful curiosity," Minister Aglukkaq told students at Aqarsniit Middle School.



Health Minister Leona Aglukkaq participates in a science workshop with students at Aqarsniit Middle School in Iqaluit.

Recognizing that Canada's future lies in a knowledge-based economy, the Government of Canada is working on several fronts to encourage students to pursue careers in science. For example, Canada's Economic Action Plan as set out in the 2009 Budget provided CIHR with an additional \$35 million to expand its Canada Graduate Scholarships program.

The science workshop attended by Minister Aglukkaq was supported by Synapse, CIHR's youth engagement program. This program helps encourage and support CIHR-funded researchers, graduate students and postdoctoral fellows motivated to teach young Canadians about the value of science and health research.

"We've learned over the years that, to create great scientists, we need to get kids excited about science at an early age."

"CIHR's Synapse program makes science accessible to kids living in all parts of Canada – especially those living in rural or remote communities, who might not otherwise get this opportunity," said Dr. Cornelia Wieman, a member of CIHR's Governing Council and co-director of the Indigenous Health Research Development Program at the University of Toronto.

About the Canadian Institutes of Health Research

The Canadian Institutes of Health Research (CIHR) is the Government of Canada's agency for health research. CIHR's mission is to create new scientific knowledge and to catalyze its translation into improved health, more effective health services and products, and a strengthened Canadian health-care system. Composed of 13 Institutes, CIHR provides leadership and support to nearly 12,000 health researchers and trainees across Canada.



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NATIONAL

Canadian Health Research Awards



2008 Canadian Health Research Award winners with Dr. Alain Beaudet, CIHR President (far right).

On November 19, 2008, CIHR and its partners held the Seventh Annual Canadian Health Research Awards ceremony at the National Gallery of Canada in Ottawa. These awards honour our best health researchers and their contributions to making Canada a healthier, more innovative and prosperous nation. For information on these awards and this year's winners, please go to <http://www.cihr-irsc.gc.ca/e/38137.html>

Alberta Hockey Players Hurt More Than Quebec Pee Wee Players

Calgary, Edmonton, Quebec City and Montreal: Quebec's 11 and 12-year-old minor hockey players, who are prohibited from body checking, are 2.5 times less likely to get hurt than young players in Alberta, where body checking is allowed, according to an ongoing CIHR-funded study. The University of Calgary's Dr. Carolyn Emery, along with Laval University and McGill University, also found that young Alberta players are 3.5 times more likely to sustain a concussion.

INTERNATIONAL

Canada Encourages Global Response to Alzheimer's Disease and Aging-related Dementias

The populations of countries around the world are aging. As a result, we expect to see a dramatic rise in the number of people who develop neurodegenerative diseases such as Alzheimer's disease and aging-related dementias. This situation poses a growing and important public health challenge – one that can't be ignored.

To respond to this challenge, Canada, like several European countries and the European Union, has identified the need for a concerted research effort. For its part, CIHR is leading an initiative to develop an International Collaborative Research Strategy on Alzheimer's disease and aging-related dementias. The objective is to promote partnerships, identify shared research priorities and coordinate funding research programs in the field, with a major focus on disease prevention and innovative therapeutic strategies. To launch this initiative, CIHR organized a high-level scientific meeting with research funding organizations and leading scientists from Canada and Europe in Prague, Czech Republic, in March 2009.

WESTERN CANADA

Could Flax Become a New Weapon Against Heart Disease?

Winnipeg: Dr. Grant Pierce and researchers at the St. Boniface Hospital Research Centre and the Faculty of Medicine at the University of Manitoba are leading a first-of-its-kind study to find out whether flaxseed – already a healthy component of a diet – is effective in preventing heart disease. With funding from CIHR, the Manitoba government and the Flax Council of Canada, some 250 people will participate in the study, which will examine whether the omega-3s, antioxidants and fibre found in flaxseed can help fight heart disease. If flaxseed is eventually shown to be beneficial to our heart, it could be a big boost for Canadian farmers, who currently produce 40% of the world's flax.

Plastic Additives May Be Skewing Research Results

Edmonton: Researchers at the University of Alberta's Faculty of Medicine and Dentistry have shown that using plastic lab equipment can skew or ruin the results of medical experiments. The researchers identified two classes of chemical compounds in commonly-used plastic labware that could leach into solutions. The CIHR-supported study also found that the compounds changed the behaviour of human enzymes and brain receptors in different experiments. "We're not saying these compounds should be banned, because not every experiment would be affected by them," lead researcher Dr. Andrew Holt told CBC News. "But if we knew what the compounds did, we could order the equipment accordingly, and identify which of these are causing the problems."



Dr. Andrew Holt

Researchers Find Genetic Switch that Stops Tumours from Growing and Heart Cells from Dying

Winnipeg: A ground-breaking CIHR-funded study led by Dr. Lorrie Kirshenbaum of the University of Manitoba and St. Boniface Hospital Research Centre discovered a "master switch" that can turn on and off a death gene – when switched off, the team was able to prevent heart cells from dying. "Understanding the processes by which heart cells live or die following a heart attack is fundamental to providing new therapies in preventing damage to the heart," said Dr. Jim Davie, Director of the Manitoba Institute of Cell Biology. "This exciting and significant study sheds light on how the Bnip3 death gene is turned off in cancer cells, allowing cancer cells to ignore death signals and continue to grow. Thus this research provides exciting new directions in the treatment of heart disease and cancer."



Dr. Lorrie Kirshenbaum

Common Medication Could Boost Memory for Alzheimer's Patients

Vancouver: A CIHR-supported study led by a University of British Columbia psychiatry professor has discovered that a drug commonly used to treat epilepsy and bipolar disorder improves memory by reducing brain plaque in mice with Alzheimer's, offering hope of improved memory for people with this debilitating disease. "If this works... it's going to benefit every patient with Alzheimer's disease," Dr. Weihong Song told Canwest News Service. The mice were treated with valproic acid, usually used as a mood stabilizer or anti-convulsant. The drug reduced the formation of brain plaque, leading to better results on memory tests.



Dr. Weihong Song

CENTRAL CANADA

Home-based Pulmonary Rehab Better for Patients, Health-care Budgets

Quebec City and Montreal: Researchers from Quebec have designed a home-based rehabilitation program that they say is just as effective as hospital rehab for treating chronic obstructive pulmonary disease (COPD) – the fourth leading cause of death in Canada. The program is based on aerobic exercises and can easily be performed at home after an appropriate evaluation by a physician and teaching by a kinesiologist. Pulmonary rehabilitation is the most effective method for improving shortness of breath, exercise capacity and quality of life in patients with COPD. The home intervention is an innovative way to facilitate access to pulmonary rehabilitation by the 750,000 Canadians suffering from COPD. This CIHR-supported study was led by Dr. François Maltais of the Institut universitaire de cardiologie et de pneumologie de Québec (Laval Hospital) and Dr. Jean Bourbeau of the McGill University Health Centre.

New Lenses Could Protect Shift Workers from Nocturnal Light

Toronto: Dr. Robert Casper, a CIHR-supported researcher at the Samuel Lunenfeld Research Institute, has developed an optical lens that could be worn by shift workers or installed on light covers to reduce the health risks associated with nocturnal light – including increased risk of cancer, heart disease, depression and obesity. The lenses filter low wavelength light. In clinical trials with the lenses, researchers have shown it's possible to prevent circadian rhythm disruptions – the body's natural cycles that control sleep and other biological functions. "Not only could these lenses help improve the overall health of shift workers, they could also prevent circadian rhythm disruption for people with jet-lag or other sleep disorders," said Dr. Casper.



Shadab Rahman, one of Dr. Casper's graduate students

Scientist Finds Passage Through "Cement-like" Clogged Arteries

Toronto: Dr. Bradley Strauss describes the difficulties of crossing the material that blocks coronary arteries as being "like cement". Until recently, many of these blocked arteries were considered nearly impenetrable by angioplasty. Bypass surgery was one of the few options for treatment. Now, landmark research by the CIHR-funded researcher at Sunnybrook Health Sciences Centre has found a biological solution, called collagenase, that can soften the dense fist of collagen blocking the artery, allowing a physician to successfully cross the blockage with a guide wire, followed by a stent. Clinical trials with patients at two Toronto hospitals are planned for this winter.



Dr. Bradley Strauss

Western Diet Raising Global Heart Risk According to McMaster Study

Hamilton: The typical Western diet – fried foods, salty snacks and meat – accounts for about 30% of the heart attack risk across the world, according to a CIHR-supported study of dietary patterns of 16,000 participants in 52 countries. Led by Dr. Salim Yusuf of McMaster University, the INTERHEART study also found that people who consumed more fruits and vegetables had a 30% lower risk of heart attack compared to people who ate little or no fruits and vegetables. An "Oriental" diet rich in tofu and soy did not lower or raise the risk of heart disease.



Dr. Salim Yusuf

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EASTERN CANADA

Dalhousie Researchers Examine Oral Health of Aging Baby Boomers

Halifax: Dalhousie University's Faculty of Dentistry has launched a CIHR-supported study that will help understand what kind of expectations aging baby boomers have regarding oral health. "Older adults may not have access to needed dental care due to an inability to afford care or other barriers linked to mobility and transportation. The study will clarify the current status of oral health care and needs among this population," said lead investigator Dr. Debora Matthews. The information collected from some 1,200 participants throughout Nova Scotia will be used to direct planning and influence public policy making to meet oral health needs in the future.



Dr. Debora Matthews

Maritime Study to Evaluate Impact of Early Literacy Programs

Nova Scotia, New Brunswick, Prince Edward Island: A CIHR-funded study

will follow dozens of Maritime mothers and their young children over the next three years to evaluate which early reading programs have the greatest impact. Lead investigator Dr. Cyndi Brannen at the IWK Health Centre in



Dr. Cyndi Brannen

Halifax, along with colleagues from St. Francis Xavier University, Dalhousie University, the University of New Brunswick and the University of Prince Edward Island, hope to determine how these programs affect both literacy and overall health over the long term. "Many areas within the Maritimes have lower literacy rates than the national average," said Dr. Brannen. "People with reading difficulties have fewer educational and job opportunities which can in turn impact their health."

Upcoming Events/News

Each month: Café Scientifiques
in cities across Canada dealing with
topical health issues.
www.cihr.gc.ca/cafe_scientifique.html.